## REMARKS

Applicants thank the Examiner for undertaking a very though examination of the application and for withdrawing previously made rejections under 35 USC 103 and double patenting.

**Claim Rejections - 35 USC § 112**

Claims 1-8, 10-19, 21-24, and 29-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. This rejection is respectfully traversed.

First, the Examiner states that the limitation "at least two of the coded probes comprise two or more identifiably different nano-barcodes that create different signatures" in claims 1 and 19 is new matter as Applicant's Remarks filed on August 13, 2007, does not indicate which part of the specification supports this limitation. This limitation is supported in the specification by paragraphs [0052]-[0057], which state that by using identifiably different nano-barcodes for each different type of coded probe, the type of probe being scanned can be identified in a mixture of different probes. More specifically, paragraph [0052] discloses "each coded probe may have two or more attached nano-barcodes" and "the signal detected from each coded probe must be capable of distinguishably identifying that coded probe from different coded probes," which together clearly support the limitation "at least two of the coded probes comprise two or more identifiably different nano-barcodes."

Furthermore, please note that "identifiably different nano-barcodes" refer to nano-barcodes that inherently create different signatures for identification. Thus, the term "that create different signatures" that was added in the Amendment of August 13, 2007, is an inherent property of the "identifiably different nano-barcodes." Please note that the addition of an inherent property does not introduce new matter as explained in MPEP 2163.07(a):

> By disclosing in a patent application a device that inherently performs a function or has a property, operates according to a theory or has an advantage, a patent application necessarily discloses that function, theory or advantage, even though it says nothing explicit concerning it. The application may later be amended to recite the function, theory

or advantage without introducing prohibited new matter. *In re Reynolds*, 443 F.2d 384, 170 USPQ 94 (CCPA 1971); *In re Smythe*, 480 F. 2d 1376, 178 USPQ 279 (CCPA 1973).

If the Examiner, however, suggests deleting the term "that create different signatures," then Applicants would agree to this amendment.

Second, the Examiner has also asserted that although the specification describes aligning the coded probes on a surface by molecular combing in originally filed claim 9, the specification does not describe "aligning the coded probes that bind to one or more target molecule on a surface by microfluidic molecular combing" as recited in claims 1 and 19. This limitation of claim 1 is the combination of the following two limitations from the original claims: (a) "organizing the coded probes that bind to the one or more target molecules" of original claim 1, and (b) "aligning the codes probes on a surface by molecular combing" of original claim 9. In short, by adding the limitation "that bind to the one or more target molecules" after the term "coded probes" in the limitation "aligning the codes probes on a surface by molecular combing" one arrives at "aligning the coded probes that bind to the one or more target molecules on a surface by molecular combing." In addition, paragraph [0130] support "microfluidic molecular combing." Thus, the combination of original claims 1 and 9, and the disclosure in paragraph [0130] fully support the limitation "aligning the coded probes that bind to one or more target molecule on a surface by microfluidic molecular combing" as recited in claims 1 and 19.

Third, the Examiner states that the specification describes that "codes probes 340 may be aligned on a surface 300 by free flow electrophoresis" in paragraph [0096], but the specification does not describe that the coded probes are aligned on the substrate surface by any kind of electrophoresis as recited in claims 29-32. Applicants have amended claims 29-32 by adding the term "free flow" before the term "electrophoresis" to limit electrophoresis to free flow electrophoresis. The addition of "free flow" in claims 29-32 does not raise new issues as these claims have already been examined with the broader limitation "electrophoresis."

Claims 1-8, 10-19, 21-24, 29, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite. This rejection is respectfully traversed.

The Examiner has inquired as to whether "microfluidic molecular combing" in claims 1 or 19 means molecular combing in a microfluidic channel. See paragraph 6 of the Action. As explained in paragraph [0130] of the specification, microfluidic molecular combing is not limited to molecular combing in a microfluidic channel, but can be molecular combing "using multiple chambers and/or microfluidic channels, different patterns of microfluidic components, different microfluidic streams and different structures within the channels." In short, "microfluidic molecular combing" is clearly explained in the specification.

The Examiner has rejected claim 11 as being vague and indefinite stating that force modulation imaging or magnetoresistive sensitivity mapping is not an apparatus. Persons of ordinary skill in this art would readily understand that force modulation imaging and magnetoresistive sensitivity mapping refer to microscopy equipments designed for force modulation imaging and magnetoresistive sensitivity mapping. "Force modulation imaging is an offspring of the atomic force microscope (AFM), one of the scanning probe microscopes." See http://invsee.asu.edu/nmodules/engmod/visualizing.html. "Magnetic Force Microscopy is used for imaging magnetic field gradient and its distribution above the sample surface. ... Variations of MFM include Magnetoresistive Sensitivity Mapping (MSM) and High Frequency MFM (HFMFM) and Magnetic Dissipation Microscopy (MDM)." See http://www.spmtips.com/products/cantilevers/catalog/mfm/. However, just for clarification, but without raising any new issues, Applicants have added the word "microscopy" after the terms "force modulation imaging" and "magnetoresistive sensitivity mapping" in claim 11.

In view of the above amendment, Applicants believe the pending application is in condition for allowance. In the present Amendment, Applicants believe that they have addressed each and every issue raised by the Examiner. However, if the Examiner has any remaining issues that could be addressed over the telephone, then Applicants respectfully submit that the Examiner should contact the undersigned.

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Respectfully submitted,

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